AMENDMENTS TO THE CLAIMS

Claims 1-62 (Cancelled)

63. (Currently Amended) A mobile communication system having a turbo encoder having input data frames of variable size ~~capable of processing variable size input data blocks,~~ comprising:

a processor for determining a number and a size of sub frames which can be generated from one input data frame, ~~to segment an input data block to make a number of sub frames~~ according to a size of the input data frame ~~QoS parameter~~; and

~~a buffer for storing the input data block;~~

~~a first constituent encoder for receiving a sub frame and encoding the sub frame data;~~

~~an interleaver for interleaving the sub frame to generate an interleaved sub frame ; and~~

~~a second constituent encoder for encoding the interleaved sub frame.~~

a turbo encoder for turbo encoding the input data frame in accordance with said determined size of the sub frame.

64. (Currently Amended) The mobile communication system as claimed in claim 63, further comprising a channel interleaver for interleaving an encoded data frame, wherein the encoded data frame is constructed by concatenating the output of the turbo encoder for the input data frame ~~said encoded sub frames at a time~~.

65. (Cancelled)

66. (Currently Amended) The mobile communication system as claimed in claim 63, wherein the processor determines to segment the input data frame ~~block~~ when the size of the input data frame ~~block~~ is ~~more than~~ 20480 bits.

67. (Currently Amended) The mobile communication system as claimed in claim 63,

wherein the number and size of the sub frames is determined by a permissible delay ~~QoS parameter is delay time~~.

68. (Cancelled)

69. (Currently Amended) The mobile communication system as claimed in claim 63, wherein the number and size of the sub frames is determined by a permissible error rate ~~QoS parameter includes at least an error rate, and the number of segmented sub frames is determined by the error rate~~.

Claims 70-71 (Cancelled)

72. (Currently Amended) A channel encoding method for a mobile communication system having a turbo encoder having input data frames of variable size ~~capable of processing variable size input data blocks~~, comprising the steps of:

~~determining a number of sub frames generated from one input frame, according to a QoS parameter;~~

determining a number and a size of sub frames that can be generated from one input data frame when the size of the input data frame is greater than a predetermined value;

segmenting the input frame into the determined number of sub frames; and

encoding the sub frames individually.

~~first encoding a sub frame to encode the input frame by a sub frame unit~~

~~interleaving the sub frame to generate a interleaved sub frame data; and~~

~~second encoding the interleaved sub frame .~~

73. (Currently Amended) The channel encoding method as claimed in claim 72, further comprising the steps of:

constructing an encoded input data frame by concatenating the output of the turbo encoder for the input data frame ~~combining encoded symbols of each sub frame of the input~~

~~frame~~; and

channel interleaving the encoded input data frame ~~combined symbols~~.

74. (Cancelled)

75. (Currently Amended) The channel encoding method as claimed in claim 72, wherein the input data frame is segmented ~~block~~ when the size of the input data frame ~~block~~ is 20480 bits.

76. (Currently Amended) The mobile communication system as claimed in claim 72, wherein the number and the size of sub frames is determined by a permissible delay. ~~wherein the QoS parameter includes at least delay time.~~

77. (Cancelled)

78. (Currently Amended) The channel encoding method as claimed in claim 72, wherein the number and the size of sub frames is determined by a permissible ~~of the segmented sub frames is determined by the~~ error rate.

79. (Currently Amended) A channel encoding method for a mobile communication system having a turbo encoder having input data frames of variable size ~~capable of processing variable size input data blocks~~, comprising the steps of:

comparing ~~the number of bits input~~ a bit number of one input data frame input into the turbo encoder with a predetermined value;

deciding to segment ~~a~~ the input ~~frame~~ data frame into sub frames if the bit number ~~of bits input into a turbo encoder~~ is more than the predetermined value; and

turbo encoding data of a sub frame ~~data~~ which is segmented from the input data ~~block~~ frame.

80. (Currently Amended) The channel encoding method as claimed in claim 79, wherein the predetermined value is ~~less than~~ 20480 bits.

Claims 81-86 (Cancelled)

87. (Currently Amended) A mobile communication system having a turbo encoder having input data frames of variable size ~~decoder capable of processing variable size input data blocks~~, comprising:

a decoder for turbo decoding ~~a sub frame~~ data ~~being~~ received as a sub frame, wherein said sub frame is segmented from one original input data frame; and

a frame recomposer ~~recombiner~~ for ~~re~~combining an output of the decoder into the original input data frame in accordance with message information about more than one ~~the number of the~~ sub frames.

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88. (Currently Amended) The mobile communication system as claimed in claim 87, further comprising a processor for determining a ~~the~~ number and a size of the more than one sub frames ~~and the size of the respective sub frames~~ upon receiving the message information about the number ~~of the sub frames~~ and the size of the more than one ~~respective~~ sub frames, and providing the determined number and size information to the frame recomposer ~~recombiner~~.

Claims 89-90 (Cancelled)

91. (Currently Amended) A channel decoding method for a mobile communication system having a turbo encoder having input data frames of variable size ~~decoder capable of processing variable size input data blocks~~, comprising the steps of:

segmenting a received data frame into a number of ~~multiple~~ sub frames according to received message information.

turbo decoding said sub frames individually ~~unit~~; and

~~re~~combining the turbo decoded sub frames ~~the turbo decoded data frame~~ into the received

data frame in response to said message information about the number of the sub frames.

Claims 92-96 (Cancelled)

97. (Currently Amended) A mobile communication system having a turbo encoder having input data frames of variable size ~~capable of processing variable size input data blocks~~, comprising:

a processor for determining to segment one input data frame ~~block~~ to compose a plurality of sub frames when the size of an input data frame ~~block size~~ is more than a predetermined value;

a buffer for storing the plurality of sub frames ~~input data blocks~~;

a first constituent encoder for encoding data of the sub frame ~~data~~ received from the buffer;

an interleaver for interleaving the data of the sub frame;

a second constituent encoder for encoding the interleaved data ~~of the sub frame~~; and

a channel interleaver for interleaving an encoded data frame, wherein the encoded data frame is constructed by concatenating the output of the turbo encoder for the input data frame.

98. (Previously Added) The mobile communication system as claimed in claim 97, the predetermined value is 20480 bits.

99. (Cancelled)

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100. (New) The mobile communication system as claimed in claim 63, wherein the turbo encoder comprises:

a first constituent encoder for encoding data of the sub frame;

an interleaver for interleaving the data of the sub frame; and

a second constituent encoder, operably connected to said interleaver, for encoding the interleaved data of the sub frame.

101. (New) The mobile communication as claimed in claim 100, said interleaver includes an interleaving address mapper for interleaving data of said sub frame.

102. (New) The mobile communication system as claimed in claim 63, further comprising a multiplexer for multiplexing respective outputs of the turbo encoder.

103 (New) The mobile communication system as claimed in claim 63, further wherein the number and the size of sub frames is determined by a receiver memory size.

104. (New) The mobile communication system as claimed in claim 63, wherein the size of said sub frames are equal.

105. (New) The channel encoding method as claimed in claim 72, wherein the encoding step further comprises the steps of:

encoding data of the sub frame to encode the input data;

interleaving the data of the sub frame to generate a interleaved sub frame; and

encoding data of the interleaved sub frame.

106. (New) The mobile communication system as claimed in claim 72, wherein the number and the size of the sub frames is determined by a receiver memory size.

107. (New) The mobile communication system as claimed in claim 72, wherein the size of said sub frames are equal.

108. (New) The mobile communication system as claimed in claim 87, wherein said message information is received during a call setup.